Energy Efficiency and Renewable Energy
Federal Energy Management Program

How to Buy an Energy-Efficient Hot Food Holding Cabinet

Why Agencies Should Buy Efficient Products

- *Executive Order 13123 and FAR part 23 direct agencies to purchase products in the upper 25% of energy efficiency, including all models that qualify for the EPA/DOE* ENERGY STAR® *product labeling program.*
- *Agencies that use these guidelines to buy efficient products can realize substantial operating cost savings and help prevent pollution.*
- *As the world's largest consumer, the federal government can help "pull" the entire U.S. market towards greater energy efficiency, while saving taxpayer dollars.*

Federal Supply Source:

- General Services Administration (GSA)
  General Products Center, Fort Worth TX
  Phone: (817) 978 - 4545
  www.fss.gsa.gov

For More Information:

- DOE's Federal Energy Management Program (FEMP) Help Desk and World Wide Web site have up-to-date information on energy-efficient federal procurement, including the latest versions of these recommendations.
  Phone: (800) 363-3732
  www.eren.doe.gov/femp/procurement
- The Food Service Technology Center (FSTC) has several fact sheets and other publications on food service equipment.
  (925) 866-2844
  www.fishnick.com
- The North American Association of Food Equipment Manufacturers (NAFEM) has information on standards, guidelines, and other publications on food service equipment.
  Phone: (312) 245-1054
  www.nafem.org
- American Society for Testing and Materials (ASTM) has test standards for food service equipment.
  Phone: (610) 832-9585
  www.astm.org
- Lawrence Berkeley National Laboratory provided supporting analysis for this recommendation.
  Phone: (202) 646-7950

Efficiency Recommendation[a]

Performance Metric	Recommended	Best Available
Idle Energy Rate[b]	0.8 kW or less	0.5 kW

a) Efficiency recommendation covers full-size hot food holding cabinets. Other cabinet sizes have proportionally lower levels of idle rate and annual energy use.

b) Idle rate is based on the idle energy rate test as prescribed by the *ASTM Standard Test Method for the Performance of Hot Food Cabinets (F2140).*

Definitions

Idle energy rate is amount of energy an appliance uses to maintain a stabilized operating temperature.

Where to Find Energy-Efficient Hot Food Holding Cabinets

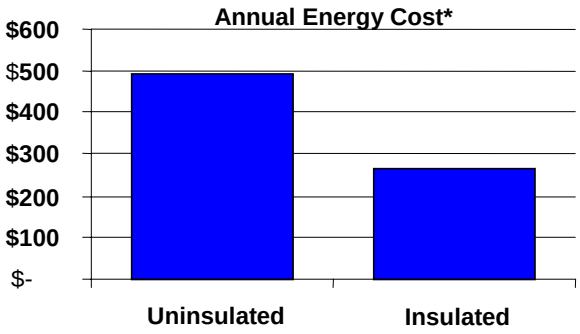
The General Services Administration (GSA) is the federal supply source for hot food holding cabinets, which can be purchased through GSA's Schedule 539. Request GSA vendor price lists for insulated models that meet this energy efficiency recommendation. For hot food holding cabinets purchased through commercial sources (retailer, distributor, or contractor), request an insulated model. A full-size hot food holding cabinet that is insulated should have an idle energy performance that meets this recommendation.

Cabinet Features

Hot food holding cabinets are available with a variety of features, including insulation, temperature and humidity controls, and Dutch doors (for access to part of the cabinet without losing heat from the entire cabinet). In addition to saving energy, insulated cabinets radiate less heat into the kitchen, which helps to keep the work environment more comfortable.

User Tips

Hot food holding cabinets are often left on overnight. Turning them off could save substantially on annual energy costs. Make sure that door gaskets and auto door closers are maintained in good operating condition. Worn door gaskets and faulty auto door closers allow hot air to escape from the cabinet and increase energy consumption.



***Assuming 15 hours of operation per day, at $0.06/kWh.**

Hot Food Holding Cabinet (Full Size) Cost-Effectiveness Example

Performance	*Base Model*	*Recommended Level*	*Best Available*
Cabinet Insulation	No	Yes	Yes
Idle Energy Rate	1.5 kW	0.8 kW	0.5 kW
Annual Energy Use	8,300 kWh	4,400 kWh	2,800 kWh
Annual Energy Cost	$490	$260	$160
Lifetime Energy Cost	$4,760	$2,525	$1,550
Lifetime Energy Cost Savings	–	*$2,235*	*$3,210*

***Lifetime Energy Cost** is the sum of the discounted value of annual energy costs based on an average usage and an assumed hot food holding cabinet life of 15 years. Future energy price trends and a discount rate of 3.2% are based on federal guidelines (effective from April, 2002 to March, 2003).*

Cost-Effectiveness Assumptions

Annual energy use in this example is based on the hot food holding cabinet operating for 15 hours per day, 365 days per year at a typical temperature setting of 150°F. The assumed electric price is 6.0¢/kWh, the federal average electricity price in the U.S.

Using the Cost-Effectiveness Table

In the example above, an insulated hot food holding cabinet with an idle rate of 0.8 kW is cost-effective if its purchase price is no more than $2,235 above the price of the base model. The Best Available model, with an idle rate of 0.5 kW, is cost-effective if its price is no more than $3,210 above the price of the base model. Based on a survey of list prices, all insulated hot food holding cabinets are very cost-effective, even though they generally cost more than non-insulated cabinets.

What if my Electricity Price is Different?

To calculate Lifetime Energy Cost Savings for a different electricity price, multiply the savings by this ratio: $\left(\frac{\textit{Your price in ¢/kWh}}{\textit{6.0 ¢/kWh}}\right)$.

Metric Conversions

1 therm = 100,000 Btu
= 29.3 kWh
= 105.5 MJ
*°F = (1.8 * °C) + 32*
1 cubic foot = 28.3 liters